GLEANINGS IN BEE CULTURE

Or how to Realize the Most Money with the Smallest Expenditure of Capital and Labor in the Care of Bees, Rationally Considered.

PUBLISHED MONTHLY, AT MEDINA, OHIO,

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Bee-Keeper's Magazine. *King.*

Bee World. *A. F. Moon & Co.*

[*Also Bound Volumes of the former since 1860, and Files of all other Bee Journals that have been Published in America.*]

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Prairie Farmer,

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Country Gentleman,

Ohio Farmer,

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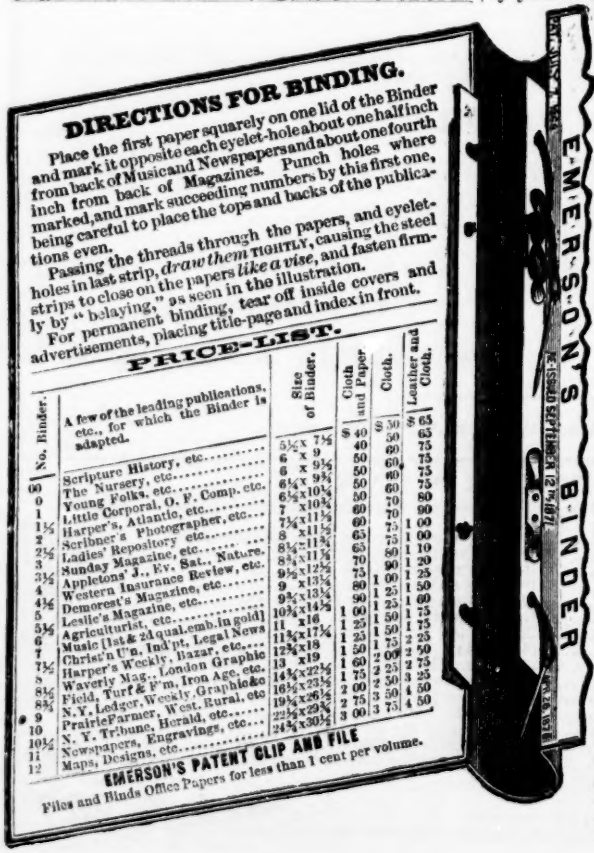
DIVERS MATTERS.

AN esteemed lady correspondent writes as follows in reply to a note from us:

Why do I sell colonies? Perhaps I shall not do so after all. The answer to your "why" is this—my salable surplus honey will not pay the season's expenses. I like to keep the Dr. and Cr. sides of my bee-keeping accounts balanced. Then if perchance, my bees all perish during the coming winter, I shall be left *desolate*, truly, but with no reason to regret my experiment in bee-keeping.

The spirit exactly. If we had 10,000 Bee-keepers in our nation and all of them paid out more money for hives, fixtures, *Bee Journals* etc., than they rec'd from the sales of honey, wax and colonies, of how much benefit would they be to our country? How many of our readers belong to this class? Perhaps we are stirring up a matter that may injure the sale of our implements, and even decrease the number of our subscribers; but if necessary, let such be the case, if we can only be assured that our friends are making their pursuit a paying one, and one that will help to make them feel independent and self sustaining. Now about the coming Convention at Pittsburgh: were it like our County Fairs, that each can attend with their own conveyance, at little or no expense, we should say, go all of you by all means; but if none were to attend except those who have made a balance on the credit side sufficient to more than pay all expenses, how large would the attendance be? It has been often urged, that 'tis by attending, that novices learn to *make* the pursuit a paying one. Does past experience show that matter has been brought forward at our National Conventions so much more valuable than any thing to be found in our Journals? 'Tis true our view may be a mistaken one, and it is the duty of each to act according to his own conviction. Pittsburgh is but a short distance from us; the round trip would probably not exceed $25.00, and perhaps three or four days time. Is it wrong for us to feel that we would far rather have the money and time to devote to the purpose of determining whether it be possible by means of a Green House, to get up healthy brood-rearing in a colony at any season of the year? Could any thing we might learn at the Convention be so valuable to us as a direct experiment of our own, in settling the question, whether it is possible to rear bees independently of the season?

While endeavoring to encourage an independent spirit among readers, it occurs to us to mention another matter; we beg that no one will think we intend any personal allusion for we should be very sorry indeed, to wound the feelings of any one. 'Tis this: quite a number of bee-keepers have suffered loss by fire or perhaps by other misfortune. What is to be done? Our advice would be, go to work at once and build up again as quickly and as quietly as possible. If any one is to blame 'tis most likely yourself for not taking the precaution to be insured. If sickness be added to other trials and assistance must be asked of some one, is it not far better to apply to your own relatives or those who are nearest and to whom you are best known? The idea of going into print with one's private trials, and soliciting aid through the Journals, we cannot think a wise one, and perhaps the greatest objection is that a dishonest person would be the one above all others who would not scruple to profit by the kind intentions of his more prudent and industrious fellow men.



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GLEANINGS IN BEE CULTURE.

DEVOTED EXCLUSIVELY TO BEES AND HONEY

Vol. II. OCTOBER 1, 1874. No. X

HOW TO CONDUCT AN APIARY.

No. 10.

BY JAMES BOLIN.

ALTHOUGH the labors of the busy workers are over for this season, those of their owner are not by any means; and if he has many stocks to care for, this month will be a busy one for him. His labors no longer consist in preparations for surplus honey, or an increase in the number of his stocks; but in preparing those he has, for winter, if he would be cheered by their merry hum again next spring.

If the labors pertaining to Sept. were promptly and faithfully performed, those of this month will be much lightened. All stocks should now be strong in numbers, well supplied with stores, and have good prolific Queens. If, however, the apiarian has been negligent and put off until a more convenient season what should have been promptly done, no time must now be lost.

First and foremost then, he should see that none are Queenless, for trying to winter Queenless swarms leads to nothing but vexation. If any are Queenless, they should be supplied at once with a laying, or virgin Queen, or at farthest a Queen cell; as giving a stock brood at this season for the purpose of letting them rear a Queen, generally fails; not so much in rearing a Queen as in having her fertilized so late in the season. If neither Queen or cell is to be had, perhaps the best disposition that could be made of a Queenless stock, would be to unite it with one having a laying Queen.

If all have Queens, the next thing in order is to see that they are strong enough. Much has been said and written about wintering a pint or quart of bees, and it can be and has been done; still I venture the assertion that three out of every four who have tried it, have failed. Napoleon once said that Providence favored the heaviest battalions; so in bee culture, *luck* as a rule, always favors the strongest stocks, at all times.

On a cool day, the bees should occupy at least four of the spaces between the combs, and from that up to 7 or 8, or even more. If any are found that are too weak, they may still be strengthened in some localities, where bees are yet breeding, by giving them frames of brood from strong stocks that can spare it. Where they cannot be strengthened in this way, they should be united until sufficiently populous, as one strong stock that will be *almost sure* to live through the winter is worth more than two weak ones that will be about equally sure to die before spring.

Care should be taken, however, not to take too much brood from strong stocks, to aid weak ones, lest the strong ones be injured. If any are short of stores and cannot be supplied by exchanging combs with others having a surplus, feeding should be attended to at once.

One object in doing what feeding is necessary, as early in the fall as possible, is that as the center combs are then full of brood, the bees are forced to put the feed at the tops and back ends of the combs, instead of in the center, where they are quite sure to store the most of it if fed after the brood is hatched out. The storing of the syrup in the center of the hive, where the combs should be empty, I regard as one of the strongest objections to extracting all the honey and feeding syrup late in the fall.

In arranging the combs for winter, if the hive is full, the heavy combs of sealed honey should be placed on the outside, and those only partially filled, in the center, for the bees to cluster in. If there are not empty combs enough for them to cluster in, one or two should be emptied with the extractor, to give them more room.

If the hive is not full of combs, the combs and bees should be placed at one side, and the space contracted by a division board; and if any frames are only partially filled with comb they should, unless nearly full, be placed at one side of the hive, where the bees would naturally have them.

While handling the combs in the fall it will pay to cut a hole in them about one third of the way down from the top. The object of this passage is three fold; viz: it will save the lives of a great many workers that are caught away from the main cluster during cold spells of weather that occur before they are housed in the fall, and after they are taken out in the spring; it will enable them to reach their stores during the winter; and will promote breeding early in the spring, by enabling the Queen to distribute her eggs more regularly in the combs while it is too cold for her to pass readily around the outside of them.

During the cold weather that occurred last spring, I found on several occasions where I had neglected to to make a passage through the combs, a piece of sealed brood several inches square on one side of a comb, and not even an egg on the other side, the Queen being unable to reach it.

Where honey boards are used, they should be taken off the last of this month and their places supplied with quilts. By putting the quilts on early, before much freezing occurs, no frost will be formed on the combs and the bees will go into winter quarters in better condition than they would do if the honey boards were left on until they are housed.

Before putting on the quilts, a stick about ¾ of an inch square should be laid across the tops of the frames, so as to leave a passage between them and the quilts.

Notwithstanding all that has been said about handling bees at all times, even in mid winter, I would earnestly advise that all the handling in the fall be done as early, and as long before housing as possible, as I have repeatedly found by experience, that disturbing bees much just before they are put into winter quarters has an injurious effect.

Last fall, and several preceeding ones, I introduced a number of Italian Queens just before putting my bees in the house, and although I lost none of the stocks into which they were introduced, yet I almost invariably found more dead bees in them the next spring, than in others that were not disturbed. For bees to gorge themselves with honey just before going into winter quarters, is about as unwise as for a person to eat a hearty supper just before going to bed. Some people may stand it, and so will some swarms of bees, but it is *unhealthy* for all that.

Did not the disturbance, consequent upon moving them so late in the fall, have something to do with the loss of the bees Mr. Daniels purchased? I think Mrs. Tupper mentioned a similar case, as having occurred in the West some time ago. West Lodi, O.

[Friend B's remarks so completely cover the ground, that we hardly need add more, but it may not be amiss to advise that your Bee Houses or cellars be put in good trim now, before cold and stormy weather. For instance, our own Bee House was too cold last winter; we resorted to artificial heat then, but will it not be better to bank it in well with dirt all around and prepare straw cushions to put between the doors etc? If any cracks are to be seen from shrinking of lumber, they should be caulked with list or strips of cloth, doors made close etc. etc. For ventilating cellars we know of no plan equal to having a stove pipe run down within a few inches of the cellar bottom, the other end communicating with the pipe of the kitchen stove. By allowing a piece of burning paper to fall on the floor you can readily see how this tube draws all the heavy impure air from the floor, up the tube. We saw the arrangement at friend Blakeslee's. Get it all fixed now before it is neglected. Ed.]

CULTIVATION OF CATNIP AS A HONEY PLANT.

THE following was rec'd in answer to an inquiry for further particulars in regard to the cultivated Catnip mentioned on page 33, March No.

The bees are increasing in stores slightly upon the catnip. Everything else is dried out, and catnip don't produce half the honey it would were it not for the severe drouth. There are wells dry here at this time that have not failed before in forty years. Some of my swarms are building comb and some are not. On the 27th of July I examined nucleus No. 12 and noted in register, laying Queen. Aug. 14th I had occasion to draw on this number for a Queen, and was surprised to find them making a desperate effort to demonstrate the fallacy of the big hive theory. My nuclei are made by putting division board in centre of full sized L. hive, and a nucleus on each side. This one had but two combs with adhering bees, when formed, and as nearly all the old bees would return to the parent stock they could not be over strong. In the time between these two examinations (17 days) this little swarm had built one comb the full length to the bottom board and another comb ⅔ as large. The large one was filled with brood nearly all capped over, and the smaller comb had some brood, and all this in the midst of this severe drouth and scarcity. Now who says a pint of bees in a hive will not work as well proportionally as five bushels? This nucleus was not fed a drop of any thing.

I believe the quality of the catnip honey is fully equal to the clover, and the color so near it that the difference is hardly perceptible. I desire to save all the seed, but have no plan of getting it out except by hand, and I found that too tedious last year. Will not some of the friends who have been sowing Alsike seed give me some light on the subject. This seed is much finer than the Alsike but I think it could be removed by the same process. I had supposed until this year that the catnip would not bloom the first season from the seed, but I sowed some last January, which is the best time to sow it for the purpose of raising plants to put out next spring, and it now stands 18 inches high and covered with bloom and with bees. M. Nevins, Cheviot, O.

P. S.—Muth says he will pay the same price for catnip honey that he does for the best white clover.

We at one time had a strong inclination to try a ten acre field of Catnip, but when we found that the expense, rent, labor etc., would amount to something like $25.00 per acre, to us, cash out of pocket, and that 'twould even then be uncertain of giving any precise income, we confess we were somewhat intimidated. The same sum expended for sugar to be fed during the fall would be a positively safe investment; that is we get an equivalent from sugar without any doubt. If an acre of catnip would yield during the season, a barrel of honey, it would without doubt pay to rent land and cultivate it, but very much less would hardly make it a safe investment.

With farmers who have the land and time, the case is quite different, and if the catnip could be grown without any or but little *cash* out, we should say grow it by all means. Friend N. offers the seed as low as seedsmen, and of course knows it to be fresh and pure.

By the way will not "catnip" honey necessarily possess some medical qualities? For the "infantile portion of community," for instance?

[For Gleanings.]

THE HIVE QUESTION.

IT seems to me that there is a general misunderstanding on the subject of mammoth hives, a subject which is just now calling forth a good deal of comment; and if you will permit me to say a few words Mr. Editor I will try to keep silent in the future as I have in the past, for it doesn't behoove every one to become a regular contributor to a Bee Journal if he is posessor of a few bees. In the first place I would say that hives which are arranged for securing such enormous yields of honey as we hear tell of, are a humbug. Now men of mammoth hives don't say "fogy" till I explain in what way they are humbugs. I keep two mammoths in my apiary just for "fun," and have arrived at the following conclusion:

In the first place they gather no more honey than the same number of bees when placed in two or three hives with one half or one third as many combs in each: and it takes more work to extract a given amount of honey from the big things, than it does from several small ones. Also, it often becomes necessary to move a hive when full of honey, and then if you are single handed, as many of us are, what are you going to do? And when it comes to wintering you have either got to divide—thus entailing an extra expense of two sets of hives—or else have a regular old fashioned barn raising to get them into the house. I have 62 colonies in hives of eight frames each, 11½x15¾ and I can attend to them more easily and get just as much honey as if they were in 31 hives of twice their capacity, and my Queens do not lay themselves all away the first season.

I know it sounds large to hear it said that Mr. Somebody had a single hive to gather six or eight hundred lbs in one season, and it no doubt does stagger the old box-hive fraternity. But if any one will pay me for the extra trouble I will (a la Hosmer) have one hive of bees to gather 1000 lbs. of honey in '75, providing it is a good season, and will not brag about it either. It is my opinion that for ease of handling and for profit we want hives with capacity of about 100 lbs. of honey *per season* in average localities.

There Mr. Editor I have said my say, and I think that experience will teach many to "see it" in about the same light. L. B. Hogue.

Loydsville, O. Sept. 8th, 1874.

The hive question is yet receiving much attention. Why do we want a better frame than the Langstroth? The two story hive—I think—for many reasons, will ever maintain a front position. The large hives about which I consulted you two years ago, with eleven Langstroth frames below, and fifteen above, the upper ones hanging crosswise, and down within three eights of an inch of the lower ones, is the favorite in my apiary. My bees have done well this season. I am still taking honey from the upper story,

W. P. Moore, Richland Station, Tenn., Aug. 2nd, '74.

THE KING BIRD FOUND GUILTY.

T. L. WAITE, of Berea, O., furnishes some very 'positive evidence and also mentions a habit of the King bird, we think not generally known to naturalists. During the month of June '72, a flock of seven of these birds were making such regular and constant visits to his Apiary that his suspicions were aroused and concealing himself, he with watch in hand observed a single bird snap up 5 to 8 per minute. After having pursued this "innocent" amusement for a sufficient interval, his birdship was in the habit of taking a rest on a neighboring tree, where after a short meditation he commenced a series of muscular contortions of the head and neck that finally resulted in his opening his mouth wide and "heaving up" a wad of some strange black looking substance. By chance their perch was close over a bed of Rhubarb or Pie plant and our friend secured a number of these wads as they fell, and thus settled the point of their being nothing more nor less, than crushed bees. After they had "squeezed" out all the honey, probably having no farther use for the "pomace" it was unceremoniously cast aside while his worship with a keen appetite and zest for the sport, went "bee hunting" again. They came regularly for a "meal" two or three times a day. Guess we had better use our rifles and shot guns in such a way as to induce them to learn that Apiaries are "unhealthy" localities for such boarders.

OUR OWN APIARY.

THE weather is to-day, Aug. 29th, very dry, and sultry, the wind has blown the dust and leaves about in such disorder that our Apiary presents anything but a tidy appearance. To add to our troubles, the cider mill has commenced work and our bees were on hand punctually, as they were a year ago. Although quite a number of stocks belonging to others are kept in the neighborhood and if we are compelled to resort to out-door feeding, we shall have to feed the whole, yet we cannot have our bees annoy our neighbors; if they continue to work at the cider mill we *must* feed them sugar all they can all carry away. To add to our troubles, already a suspiciously large number of bees are crawling about in the dust looking for all the world as if they had had "too much cider." We are heartily glad to-morrow is Sunday, for we are tired. Our paper is out on time as usual 'tis true, but it was only by working nights that we were prompt this month.

Oh! that it only *would* rain.

Aug. 31*st*—We arose yesterday morning feeling that at least one day in the week our bees would not be tempted, for cider mills fortunately do not "work" on Sunday. Early in the morning they seemed to be very thievishly inclined for they buzzed querulously from hive to hive in a manner that betokens an unhealthy excitement, and greed for gain not to be procured through the ordinary path of honest industry. We can readily imagine the feeling that a gambler or burglar must have after first pocketing dishonest gains; perhaps he has just abandoned an honorable calling because times are dull, and full of an unhealthy excitement at such a sudden and easy way of getting money he may for a time evade stinging reproaches of a guilty conscience for having appropiated without equivalent, the honest, innocent, earnings of his fellow men; but does not the time come when he feels that he would be far happier with the most meagre fare or plainest clothing for his wife and family, could he only once more lie down at night with the old feeling, that 'twas all his own and honestly gained, and that no one of his fellow beings had been in the least wronged out of their honest earnings? Have bees any conscience? are they just as happy while robbing their neighbors? We mused thus while studying their movements this Sabbath morning.

Later, after the dew was off, we were pleased to see them launching out in an opposite direction from the cider mill and when they began returning laden, and with that weary happy hum, that surely betokens honest labor, our curiosity was aroused. By nine o'clock a perfect stream of bees were pouring out in this same direction, and they hurried out of the hives to file in with the throng in a way that seemed to indicate none would be left. 'Twas only an hour and a half to church time, yet we clambered over the fence, and "poured" in the same direction, our enthusiasm being kept up by hearing their hum over head. After passing through a piece of woods about a mile from home we found about a half acre of Bone set, or Thoroughwort, (*Eupatorium Perfoliatum*) and the view on coming suddenly out on this mass of bloom, literally dancing, and joyous, with our Imported Queens young grand children, was indescribable. The blossoms were nearly on a level with ones head and the music the bees made was decidedly different in tone from that around the cider mill or the out door sugar feeding either for that matter. Their little selves were all dusted with the snowy pollen and their happy hum seemed to indicate that they, like ourself, felt such a feeling of thankfulness to our Creator for the beautiful world he has given us, that even existence is a pleasure. As this, could not employ all of them we went farther, and in a dense wood beyond found acres of White snake root (*Eupatorium Lageratoides*) not yet quite in bloom, but still visited quite plentifully with bees. Another plant interested us still more, but before describing it we will say that for several years past we have in the fall noticed bees coming in laden, that had a queer white spot on the tuft between the roots of the wings. This sometimes had almost the appearance of a drop of white paint having fallen on them. In vain did we sally out with the determination of finding what plant gave this white powder, for we were invariably baffled, and finally consoled ourselves by thinking it must be from thistles. To-day however, no bees were on thistles, and yet this white spot was plainer than ever as they hurried into the hive to unload, and also when they hied to the woods again. The bells were ringing for church, and we were more than a mile away in the woods, yet with uncovered head we stooped in mute wonder over the solution of the riddle that had perplexed us so long. The plant was the wild Touch-me-not, (*Impatiens*) so familiar to urchins on account of the wonderful pods that snap all to pieces when touched. Well the honey is secreted in a spur in the bottom of the flower, and the bee can only reach this by diving down into it almost out of sight and when the coveted treasure is obtained he backs out with a ludicrous kicking and sprawling of his legs, and in so doing the down on his back is ruffled up the wrong way. Now this would be pretty certain to get the pollen dusted all over him, but nature to make sure has planted a little tuft that bears the pollen just on the upper side of the entrance to the flower, and in his struggles to get out the white pollen is brushed all into his back most effectually, to be carried to the next flower and so on.

As we hastened homeward with a boquet composed of the different plants named, we passed by a quantity of what is called here, Rag weed, or Bitter weed, (*Ambrosia Artemisiæfolia*) here too the bees and nature were at work. Since Darwin has partially enlightened us we might say too perhaps, that "Natural selection" was at work. This plant bears the male, or pollen bearing flowers on tall racemes somewhat similar to corn, while the seeds are produced lower down where the branches leave the stem. As bees only work occasionally on this plant they are not really necessary to its fertilization as in the case of the Touch-me-not, and accordingly we find that it produces hundreds of the male or pollen bearing flowers to one of the seed blossoms. Now is there not something analogous in this to the

fact that the economy of the bee hive demands that hundreds of drones be reared where only one is needed? The pollen is borne so much above the seed blossoms that the winds in wafting it are almost sure to fertilize the blossoms of some neighboring plant, and the drones as they circle up in mid air impelled by that wonderful instinct, are more than likely to meet with Queens from other hives than their own.

We reached church in very good season, and in a much more devout frame of mind than if we had spent the whole of the morning sleepily over books and papers.

The spring scales showed at night a gain of *one half* lb., which though a small matter was enough to set us rejoicing. As the suspended colony is less than an average one, we can safely say we got 35 lbs. of honey during the day, from the Autumn Wild Flowers; and to-day they show ¾ of a lb., or about 52 lbs. from the whole Apiary.

Sept. 1*st*—One half lb. again to-day, and we think that they really have neglected the cider mill, as our neighbor promised to send his little boy up to notify us, if they troubled him again as they did last week.

Sept. 18*th*—Nearly three weeks have passed and the bees have been busy, some of them on the Autumn wild flowers, others on dry sugar in the open air, but by far too many at the cider mill from which we have labored in vain to entice them, especially when they made "sweet apple" cider. With the extremely warm dry weather we have had this month, we have not succeeded in keeping them away entirely, although pollen in abundance, and considerable honey has been brought from the woods mentioned. Since writing before, we have learned there are about 200 acres of the woodland fenced close from all kinds of stock, and also that the reason for this is, that same White Snake root that literally whitens the ground, is the cause of a species of "milk sickness." Since several people and many cows and horses have died from this, the woodland has been carefully fenced up. The honey from the weed has something of a hoarhound flavor, and gives the hives a peculiar odor. It has been suggested that our bees too, died from this same "milk sickness," but we are more inclined to accord it to the cider mill. At any rate our hives are now most of them heavy with nicely sealed stores and pollen; these stores are a mixture of honey and cider with liberal doses of sugar syrup given every evening, and all we can do is to hope the latter will counterbalance all ill effects of the former. As they have all been kept rearing brood briskly we trust at least two thirds of these stores are sugar.

We have loaned our Quinby smoker to the cider mill folks, and we are again using our "sauce pan." It certainly has one advantage, and that is, that it don't "go out" even if we do forget to "squeeze" it incessantly, but on the other hand it smokes ones eyes badly at times, and when the smoke don't happen to go in the right direction we sometimes get a sally from the hybrids that make us long for the bellows smoker again. The latter does good service at the mill, but it doubtless takes much time to drive the bees a little ways. We can only congratulate ourselves that 'twill soon be cool, and then such troubles will be over.

Sept. 19*th*—'Twas just one year ago to-day that we moved our bees to the swamp on account of the cider mill, and the "cider mill man" has just been here to tell us that something must be done with "them bees." Of course we dampened the sugar, and soon had all the bees tame and wild from a mile or more around, having a grand free picnic at our expense. The weather has been unusually warm and sultry; cool days that must soon come, will probably end this trouble for this season.

Sept. 21*st*—We have tried putting a strong colony in our bee house, placing it before the window so that it could receive the full rays of the morning sun. The great problem was, to see whether after collecting on the windows, they would regain their hive. It is with much joy that we are able to state they did, nearly all, after they had once learned how. The young Italians learned the programme readily, and even made foraging voyages to remote corners of the room to some combs of honey, and returned with the spoils, safely to their hive. The old bees, accustomed to the fields, as we anticipated, buzzed on the window until tired and then formed in a large cluster at the top of the window. In about an hour a few found the hive again and set up a loud call, and by noon, the entrance was covered with bees that with elevated bodies were fanning their wings at a great rate to make known to their comrades the joyful intelligence. By sundown, all were in safely except perhaps a dozen or two.

With space for them to enjoy the full sunshine, we have no fear but that all would regain the hive safely, but we confess it seems quite improbable that the bees from a dozen hives or more in a small enclosure would all regain their respective hives; still, until we have tested the matter, we have no real right to doubt.

We have before made mention of bees with distended bodies found around on the ground during "cider time." Well, among those on the window, we found quite a number such, and they soon fell to the floor. Later in the day the floor was soiled with their excrement and this soon had quite an unpleasant smell that reminded us vividly of two years ago, yet this was quite a warm day. Could they have had ample room to fly farther from the hive perhaps this would not have been observable, but we cannot help thinking it is the effect of the cider mill. *Perhaps* giving them a fly every week or two during the winter might do much to avoid the evil effects of such diet but that it will prove a perfect remedy for the gradual dwindling away as did ours last spring, we hardly dare hope. Our bees did *not* die with dysentery as has been intimated.

From an experiment made we would decide that bees do not *make* honey, but simply gather it. We threw out some of the thinnest, raw unripened honey that we could find during the basswood harvest, and put it in a fruit jar covering the mouth with thin guaze only. After keeping it in a very warm place for several weeks it was found to be as thick as the thickest honey, to have lost its raw taste, and to have become nice honey, such as is taken out of sealed comb.

OUR PRIMARY DEPARTMENT,

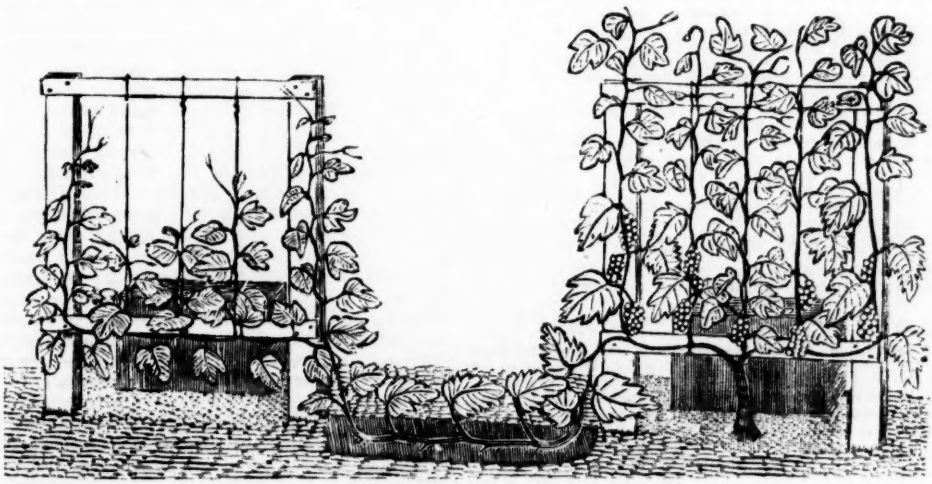
Or First Principles in Bee-Keeping.

[Designed especially for the veriest novices, and those who know nothing of bees whatever. Conducted by a fellow Novice of several years experience replete with blunders, as well as with occasional successes.]

WE promised to tell how to "swarm grape vines artificially." Very well; your one vine is supposed to have become strong and vigorous, and to have not only covered the trellis completely, but to have seemingly become impatient of being restrained by the continual pinching back necessary to keep it within such narrow limits. It in fact has perhaps manifested this by blossoming and attempting to bear grapes out of season near the top bar of the trellis. It is precisely like a colony having too many bees for the size of the hive. Very likely each one of the ten upright canes has produced three or four fine clusters of extra large nice berries, but still the vigor of the vine, (if our directions have been carefully complied with) is equal to something more, and accordingly we encourage one of the outside canes by allowing it to send a new shoot up above the rest of the trellis. When this is well started, the whole cane is bent over so as to go strait down to the ground and then curved outward so as to lie in a trench a few inches deep, that it may be covered with soil enough to protect it from injury.

A new trellis is now to be constructed, if it has not been done before, just 3 feet from the old one; that is, the two trellises are to have a walk of just 3 feet in width between them. The new shoot grows very rapidly and can soon be tied up to the first post of the new trellis and across the lower bar. Now select a side shoot for each wire, and almost before you are aware of it, you have another complete grape vine.

The accompanying engraving will make it all plain.



"SWARMING" A GRAPE VINE.

The view is taken from the south side, and the hives are just visible through the foliage in their proper places. One strong vine will furnish shoots for not only a new one at the right and left, but also for the whole six that are to surround the original one, even in a single season if need be. As the new vines take root almost as soon as laid down, the old vine suffers but little loss, and new ones that were started in this manner the 4th of July last season, are now pretty well loaded with fine grapes; their connection with the old vine enabling them to become bearing vines in one year only. Although their remaining attached to the old vine does not seem to impair its productiveness, the aid they receive from it is quite important. This matter we tested this season by chopping one of the new vines off where it left the old one, as we were hoeing about them. It had been growing with great vigor, and had considerable fruit on it, but the next day the sun hung its foliage like wilted cabbage leaves. By heavy mulching, and buckets of water, we induced it to look up again, but it is far behind its comrades and we have decided it best not to sever "parental ties" in future at all, and if we are careful in tieing them close to the posts in laying them down, they are never in the way. One strong Concord vine, we think could in this manner be easily increased to 100 in three years, and they would all bear a crop in the year following the one in which they were started. So far as quality and size is concerned, of fruit from vines trained in this manner we would only say that we have never before seen it equaled. Our vines are now loaded with delicious fruit, and Blue Eye's eloquent praises of "Papa's *whole lot* o' dapes," coupled with the appearance of the great purple bunches (which we would willingly share with our readers if we could) is enough to give one a mania for "grape growing," almost equal in virulence to the bee fever. Long may these two innocent and fascinating industrial pursuits, thrive in harmony. The idea, that the culture of either in any way interferes with the other is a joke entirely outside of our experience. Where grapes are trained thus, fowls if allowed will make sad havoc among them; the bees of course then work on the bruised ones but never otherwise.

Gleanings in Bee Culture,

Published Monthly,

A. I. ROOT & CO.,

EDITORS AND PROPRIETORS

MEDINA, OHIO.

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MEDINA, OCT. 1, 1874.

THE *Bee World* for Aug., was laid on our table on the 8th of Sept., but neither the *A. B. J.*, nor *B. K. M.*, were received until the 10th.

IF N. C. Mitchell has made good his promises of last spring in *even a single instance* we should be glad to publish it. Was not his pretended reformation only a pretense to get more victims?

FOURTEEN No's for 75c. All subscriptions rec'd between now and Jan. 1st, will be credited until Jan. 1876. As we wish to be equally liberal with our old subscribers, to all who renew before Jan. 1st, we will send a—a—not a horse and wagon because they wouldn't go into the post office, so we'll say a penny whistle or—well, you'll know what when it comes.

LOTS of trouble with the cider mill. To-day, Sept. 25th, the owner of the mill is laying idle at our expense. Even dampened sugar wont call the bees away now, and we don't know whether the trouble is that we have got so many more, or that the "Imported grand children" have a special fancy for sweet apple juice. We fear bees and cider mills are unsuited to be neighbors, at any rate 'tis rather an expensive joke on us now. We have offered to enclose the mill, and to furnish wire cloth doors and windows, but our neighbor don't relish being shut up and wont listen to it.

Sept. 25th—Sunshine once more, already. After a visit to the scene of war (cider mill) this morning about sunrise, P. G. quietly suggested cloth curtains as a remedy for the troubles that a dozen men had puzzled over in vain, and about which *two* had almost quarrelled. Some strips of pine, a few nails, $2.50 worth of sheeting 2¼ y'ds wide, and two willing hearts and hands, (Novice and the cider man) completed the whole in a couple of hours; the relief we feel in seeing the bees completely baffled and obliged to return to their legitimate duties also allowing the cider man to return to his, is more than we can tell.

SEVERAL have written us in regard to making GLEANINGS larger with price to correspond, while thanking them we would say, that in order to do so we must have a considerable larger number of subscribers, and as we have full confidence in the judgment and good sense of our American people we have felt sure they will give us the necessary support as soon as we deserve it. In this age of the world real worth is sure to be appreciated sooner or later. Rest assured that when the world seemingly neglects to appreciate you, it is pretty certain to be the case that there is nothing *to* appreciate, and that the fault is your own, and not theirs. Is not GLEANINGS as it is now, about large enough to contain all that is really new and valuable? Our friends may not all be aware that with the close small type used in GLEANINGS of late, it actually contains more matters by *measure* than either the *Bee-Keepers's Magazine* or *Bee World*, and nearly if not quite as much as the *American Bee Journal*. The contents are also almost if not *entirely original*, and even if not always chosen with the happiest faculty of pleasing every body, we have so far been cheered in our labors with quite a comfortable amount of patronage. When we succeed in deserving a better one we feel sure we'll get it. Don't you kind reader?

WE have at a considerable expense of time and money, had a Lithograph made of the Hexagonal Apiary. Of its merits we will say nothing, preferring that it shall speak for itself.

Our Photo was very well so far as Photography is capable of doing, but the amount of foliage threw so many shadows, as may have been observed, that a full representation was impossible. In the new picture we fear our Artist has gone to the other extreme and cut down the vines so much that they hardly do justice; however, as he has given us a 12x16 picture, we have ample room for delineating all the particulars: Bee House, Walks, Feeding room, Fountain, Standard Hive, Standard Extractor, inside and outside view of the latter etc. etc., besides a full complete view of the Wind-mill. Instead of giving an *exact* representation of our own Apiary we have thought best to give it as we would have one were we to lay out one anew, and we trust our efforts will meet with at least a tolerable show of approval. The picture will be securely put up on a roller and mailed for 30c.

Or sent with GLEANINGS for.....$1.00
" to any subscriber sending one name beside his own.
" " " " " for either of the previous volumes.

Vol's 1, 2 and 3, including Lithograph, ordered at one time.....$2.00

The pictures are now ready for mailing. We have purposely omitted making any mention of them until they were all ready for mailing to avoid disappointment.

HONEY COLUMN.

AT the stores where I sell honey they put the bottles on the shelves and they are not noticed. Would not a good show bill with Pure Extracted Honey for Sale, printed on it be a good thing?

J. WINFIELD, Hubbard, O. Aug. 1st, 1874.

Such a card might be a good thing, but our stores and shops are so filled up with advertisements that people nowadays have a fashion of not reading any of them. This we have tested by experiment. If you can get a neat small glass case to be set on the counter, containing a sample of each of the different jars, also one jar containing a nice piece of comb honey it will attract attention quickly, and will be recognized at once by every one. This also helps the sale of the ext'd honey, for if customers are informed the jar containing one lb. comb honey and two lbs. ext'd is worth one dollar, while the three lb. jar of the latter is only 75c, they can soon reason out the real state of affairs. Should the dollar jars go off fastest, you can buy box honey of your neighbors and keep up the trade.

From the *Daily Times* of Binghampton, N. Y. of Sept. 1st, we gather that Broome Co., can boast of quite a number of successful Scientific Bee Farmers. Their uniform succes in getting large yields of *box* honey, shows that they either are experts in the business or that their locality is extraordinary; possibly both.

Mr. J. P. Moore's yield is mentioned in another place. Mr. L. Beard from 22 stocks in the spring, has over one ton of box honey; his best colony gave about 160 lbs. Mr. J. L. Schofield has 31 stands that will average 91 lbs. of box honey each; one stock giving over 225. Mr. D. D. Winn, of Port Crane, has ten stocks that will average 100 lbs. per colony; best, gave 180 lbs. The most successful yields were from hives in which the honey was stored in frames instead of boxes. The honey is sold in N. Y. City at an average of from 25 to 30c per lb. These are all men who take Bee Journals.

FRIEND NOVICE:—I almost think I am entitled to a place in the column of "Blasted hopes" this fall. From the condition my bees were in last spring, I expected 3 or four tons of box honey, but alas! man merely proposes. Owing to the loss of nearly all the clover by winter killing, and drouth now, I shall have to content myself by reporting 3000 lbs.

'Tis true, the breeding apartments are full of honey, and I might extract from 40 to 50 lbs. or even more, from each of them, and thus send in a much more favorable report, but the fact is, the good people of

this section don't like extracted honey, and my bees don't like syrup too well; so I guess I will leave the honey where it is until spring. I will then extract enough to keep it from interfering with breeding.
JAMES BOLIN, West Lodi, O.

L——wrote Grimm and has just rec'd a letter from that gentleman stating that he has 12000 lbs. ext'd and 8000 lbs. comb. M. H. TWEED, Pittsburgh, Pa.

Have taken 3036½ lbs. of honey.
J. F. MONTGOMERY, Lincoln, Tenn. Aug. 26th, 1874.

Short and sweet friend M. but you don't tell how many bees produced it.

[For Gleanings.]

ABOUT HONEY.

FRIEND NOVICE:—We have heard many complaints made about extracted honey put up in common glass jars, with corks or metal tops. Even "Novice" says in the last GLEANINGS, that honey which he put up last year, oozed out of the tops of the jars or candied during the winter. We once experienced the same difficulty but have since learned how to take care of honey better and now have no such trouble. The plan of extracting honey as soon as gathered, straining it from the machine into the barrel, and drawing it off at once into jars, has caused much of this trouble.

Before commencing to extract, a portion of the honey in each frame should be sealed. This may be taken as an indication that the whole of that yield is evaporated and ripened sufficiently to be taken from the hive. After extracting, strain it or not as you like; it makes no difference in the end. Just draw it off into buckets holding from three to five gallons each, and allow it to stand about two weeks, skimming it every day or two. Unless there is old honey candied in the combs, and thus mixed with the new in extracting, there will be no sediment. The skimmings will remove everything else, including what it is important to have removed, namely the little frothy substance which rises on the honey and which seems to be the cause of the fermenting and oozing out at the top of the jar.

Evaporation takes place while the honey remains in the buckets which leaves it still thicker to bottle. Honey treated in this way will be of good consistency, clear, of better flavor than if put up without being allowed to stand and have the scum removed, and it will be wholly free from the tendency to ferment and ooze out, while it remains liquid much longer than if put up in the ordinary manner.

A visit to the Apiary of a friend in Nashville, Tenn., reveals the result of the same plan, only carried a little farther. This progressive amateur bee culturist has some very fine samples of honey which he put up over three years ago, and which is now liquid and as clear as when put up. As he is too modest to state his method through the Bee Journals we think of making it known in some future article.
FRANK BENTON, Edgefield Junction, Tenn.

FLYING BEES UNDER GLASS DURING THE WINTER.

BY reference to Problem No. 8, (April 1873) and No. 19, (Jan. '74) it will be seen we have been much interested in the feasibility of taking advantage of the natural heat of the sun, by cutting off the cold winds with glass sashes, as gardeners do in caring for choice plants and early vegetables. The only doubt that beset us was that it seemed somewhat improbable, from what we knew of the habits of bees, that they would go back safely to their hives instead of flying against the glass as they do in our dwellings. Our experiment mentioned on page 22 Jan. No., rather discouraged us, but we have no south windows, therefore could not give the bees the full rays of the sun. Friend Palmer, of Hart, Mich., succeeded better, and he sent us in May, a postal card that we really believe has been more valued than all other documents rec'd on wintering troubles. It would have appeared at the proper time but P. G. urged us to "go slow" this time, and if possible test the matter ourselves before going into print with it. As natural pollen has been coming in ever since its reception no such experiment has been made. This is the precious document:

I have had a swarm in a cold frame. Size of sash 2½x4 feet, frame 3 feet high in front and 1 feet high at back or north end. Placed the hive close to the back end, facing south, with a dish of rye flour on top. They worked on the flour and went back in the hive all right. HENRY PALMER, Hart, Mich., May, 5th, 1874.

In the reports given of Mich. Bee-keepers' Convention, May 6th, '74, brief allusion was made to a paper from H. E. Bidwell detailing something new in regard to wintering, but either the matter was regarded as unimportant, or for some other reason, nothing intelligible was made public in regard to it until the *Bee-Keeper's Magazine* gave the whole paper in their Sept. No. While thanking them for bringing forward a paper of such apparently great value, we cannot see why it was so delayed. If it *is* perfectly authentic, all of the various papers on ventilation, diet, bechouses etc., have been misdirected zeal. Again, in all that is to be seen on the subject, Mr. Bidwell's post office address is carefully suppressed. Is this characteristic of we Americans and our institutions? If Mr. B. will *himself* state to the public that he prefers to answer no questions in regard to the matter, 'tis our impression that none of the readers of any of our Bee Journals would be so impolite as to intrude on him. We extract from the *B. K. M.*, the most important part of the paper as follows:

"Having bought some bees last winter, which we were anxious to fly before putting them in the cellar, and having near at hand some empty hot-beds—which had been dug out in the fall for the purpose of filling early in the spring—we thought perhaps a swarm might fly in one; something risked, something gained; so we put one in. The beds were roomy, 6x12 feet, so that four sash 3x6 feet would cover them. The depth was about three feet, with a slope to the glass of one foot. In about twenty minutes after putting on the sash—it being mid-day, with a clear sky—the temperature arose within to 70°, and the bees commenced flying briskly and voiding freely. At night we found *every bee had returned to the hive.*

The next day being clear, we put in two more; the next four; and the next eight. These all returned so well to their respective hives, that we next put in eight more, two deep. Being so well satisfied with the result, and having six of these large hot-beds dug out, we flew 111 stocks, as occasion required until spring.

The only caution I would suggest would be not to fly them too often, which can be readily prevented by covering the sash with boards.

Occasionally the bees will alight on the hives or collect on the glass, if the atmosphere gets hot and close within; they can easily be dispersed by sprinkling straw on the glass to shade the bees and cool off the bed. A similar occurrence frequently happens out of doors, on a warm, close day, after the bees have been confined some time in their hives; they alight on everything, and remain until cold or hunger reminds them of their home.

The advantages accruing to this method of wintering bees are—you can safely fly them at your pleasure; none are lost in the chilly winds or snow, or on the cold ground, which increases their value in our estimation two-fold."

From this brief paper we found it impossible to gather: First, whether the sun was the sole source of heat and these were only "cold pits" or "cold frames" as they are variously termed, or whether it was a veritable "hot bed." Secondly, did the bees remain in the pits or were they only lugged in occasionally from some where else?

Thirdly, did they all come through to the month of May in good condition? This last item may be unimportant, and he like Gallup and Adair may think it trivial and beneath him to count his hives and allow his pupils to make an estimate of the per cent that was probably saved, and thus decide whether they can afford to build Conservatories for bees alone.

Our readers can rest assured that we shall give the matter a careful test and report from month to month. If it enables us to feed meal in the spring without the usual loss by cold winds etc., we shall think it of much more moment than simply getting them through the winter.

POLLEN.
ITS RELATION TO BROOD-REARING.

FRIEND NOVICE:—As you put me in "Blasted hopes" department, in the July No., I must supplement it by sending you "Reports Encouraging."

From my six puny swarms I have increased to 25, all strong. I could have possibly made 30 but I am learning to move slowly. Our main yield of honey came from basswood and buckwheat, "Linden Avenue" had a few blossoms this season. Besides our increase I have taken almost 250 lbs. of honey. A bee house was to have been built and several other things purchased for the apiary, but 250 lbs. of honey wont make both ends meet and we must wait another year. It is said, and truly, that "adversity enables us to wear out all of our old clothes." So, it will make us figure close in the apiary. Our cellar is being put in prime order for wintering *now*. We shall try natural stores and we are going to keep an eye on friend Bolin, meantime thanking him for the instructive article on page 105. Mr B. is evidently ready to forestall his "Waterloo" and to such a person it will never come, we trust.

Now Mr. Novice we wish to consult a little in relation to pollen. Will it do to keep the Queen breeding until late in the season? In nearly all our colonies in seasons past, the Queen generally ceases to lay almost entirely in Sept. or Oct. Now if we force brood-rearing at this season much pollen is used that would be of use in the spring, the old bees will live until spring, if the pollen is preserved, a quantity of of brood will be capped over quite early, and by the time the old bees die off an army of young ones will be ready to take their places; furthermore may not the forced laying produce unprolificness in the Queen during the next season?

These thoughts present themselves as we perambulate our apiary; we would like to hear from others on the subject. It was very evident that bees hatched late in the fall of '73 died as rapidly in the spring of '74 as the old bees. J. H. MARTIN, Hartford, N. Y.
Linden Avenue Apiary. Sept. 3rd, 1874.

You may be right friend M., in thinking late brood-rearing may deprive a colony of the pollen needed in the spring, but we are inclined to think otherwise.

We have made a greater number of artificial colonies this season than ever before, and in carefully watching the process of building up, we were surprised to find that an artificial colony, started with two frames of hatching brood and bees would in about ten days, or as soon as the Queens began to lay, gather more pollen than any old colony in the Apiary. This has been the case invariably, and even now Sept. 11th, we find our late nuclei "sparkling" with heavily pollen laden bees passing in at the entrance, while our strong heavy colonies seem bringing scarcely any pollen at all. What is the reason? they can certainly find it as well as the others, if they thought it was needed. An examination shows that these old Queens have quite a tendency to cease laying. Is not some stimulus or excitement needed to stir them up? Natural swarms are frequently mentioned as working with greater energy, gathering stores when old colonies were almost idle; now this is precisely the case with our artificial colonies, in fact they even commence comb building out of season, if a space can be found in which to do it.

While we were rearing Queens last fall in the upper stories, these Queen colonies brought in pollen, while the old colonies below, apparently did nothing; had we fed them during Aug. and Sept., as we have done this season, perhaps they might have gathered pollen too. Is there not pollen to be had almost always during warm weather if they can only be induced to gather it? We have noted precisely the state of affairs you mention, viz: an absence of sealed brood or larvæ, but plenty of eggs during weather in the spring in which no pollen could be gathered; we also succeeded perfectly (see page 48 Vol. 1.) in getting larva by giving pollen gathered the year before found stored in an occasional surplus comb. These combs were kept in the barn over winter. If put in a cold room we have no doubt but that pollen can be kept over safely; we should fear however keeping it away from the bees in very warm weather. If covered with honey and sealed over, 'twould probably be safe, but if unsealed and damp it frequently moulds. We succeeded in getting them to work on rye to some extent last season in Oct., see page 87, Vol. 1. We do not think the Queen's fertility in spring will be in any way impaired by keeping her busy during Sept. and Oct. In localities where buckwheat swarms and fall pasturage are common in the fall, we cannot find that the old Queens are in spring any less prolific than in other localities. Again, is absence of brood in the spring the fault of the Queen, or the fault of the bees in not using the eggs laid? We think the latter, for we have rarely found a Queen unable to lay as many eggs in March and April as could be cared for.

PROBLEM NO. 25.

NOVICE:—Will you please tell me what it costs a comb to feed bees to build them? Will it pay to feed sugar to build combs when you can buy combs at 25c each? MRS. L. HARRISON, Peoria, Ill.

My bees were in good condition when the honey harvest came, and I intended to take a nice quantity of honey but when it was too late I found I had no place for them to store it in, so I have to put up with what box honey I can get, but I shall have more combs another year. I had extra combs for two hives and have taken 693 lbs. from them already and think I will get a 100 more. LEWIS KELLEY, Smyrnia, Mich.

We wrote Mrs. H. that we though it might cost about 50c each to get combs built by feeding, which would make it cheapest to purchase, but in that case we generally have the trouble of transferring. An accurate solution of this problem is attended with no little difficulty, for whenever comb is built to advantage we have brood-rearing and the syrup will be stored in the comb more or less also. Besides, if the bees are gathering nothing at all, they decrease in weight a little every day, accordingly enough for their support must be taken into consideration. Who can report an experiment that will give us approximately, the expense per square foot of comb built by bees fed on sugar?

Heads of Grain, FROM DIFFERENT FIELDS.

FRIEND NOVICE:—You ask me if I like the two story hive best? I have not tried the New Idea yet, but thought that I would next season. I hardly think for my locality the long hive is as good as the two story; I shall give them a fair trial next year, but think they would only do for summer. I can't see how they would be any improvement on the simplicity for spring or winter. I have had splendid *luck* with $1.00 Queens, got one of J. H. P. Brown, one of Hosmer, two of J. Shaw & Son, and all pure; all came safely by mail. Those from Shaw & Son were packed best of any Queens that I ever got.

Bees have been doing very well here for the last two weeks, Buckwheat is in full blossom now and my hives are getting so strong that I think I shall have to divide them more. There have been 3 swarms of Italians in the neighborhood in the last few days.

I had 9 swarms of black bees and 3 of Italians in the spring, about as many bees in them as there would be in 4 good hives, had to feed them until the 10th of May to keep them alive; have now 20 good ones from them; all Italianized and got 486 lbs. honey which I have sold for 25c per lb. Had an order last week for 4 doz. quart jars for Pittsburgh. Sold most of it in Muth's quart flint glass jars, could sell five times the amount of such honey if I had it. Had two hives given me yesterday, the man who had them said they would die with him and if I would take them home I might have them. Had to haul them 15 miles over bad roads, broke down the combs some but the bees were all right; have two good Italian Queens to put in them now and they will make two more for me next spring (if they don't die).

E. W. HALE, Wirt C. H. West Va. Sept. 4th, 1874.

There now we've "ketched it." Our Extractors have been so universally praised on all sides, that we began to think our head was clear on one point any way, and that we knew how to make an Extractor properly if we didn't know anything else. Therefore imagine our consternation on unfolding the following:

MESSRS A. I. ROOT & CO., Gents:—I busted up my extractor on first trial. The shaft broke off just below the wings while in full motion and the racket that ensued caused a rapid getting away of the curious spectators who had congregated to see the thing work. Of course I had to carry back my frames, much to my chagrin but to the evident delight of the bees, for they gathered rapidly upon the comb and sipped the uncapped honey with great gusto. Those who had come to witness the operation, with one accord pronounced it a failure. I was forced to admit that there had been *deception or carelessness* in the making of the machine, yet I insisted that the principle was correct and that honey had been and could be extracted from combs by machines of this kind. But I could not demonstrate it. The machine was quiet enough now. The spectators, one by one, had returned, the boldest first, the timid later; the poor machine was limp and powerless, with its "in'ards" jumbled up like it had had a severe exercise with the cramp colic. I tenderly gathered it up and bent my way to the tinners, followed by the jeers of my valiant friends.

Wm. C. GRIER, Lamar, Mo. Sept. 12th, 1874.

P. S.—The tinners fixed it up and nothing could work better. It is just fun to throw out the honey (it cost me two dollars). My friends still pronounce it a humbug because I can't get them to look again to see it work. I suppose they are afraid of another "bust up."

We dropped friend G. a postal "instanter" telling him to make out a bill for all his trouble and chagrin, besides the tinner's charges and we would remit at once; we tell the rest of our readers the same, if they have had any trouble through our carelessness. We have improved and strengthened our machines in several ways since that one was made, and invite reports in regard to their working, for it is only by experience that we can tell where to improve them without adding materially to their weight.

In two story hives, does the Queen occupy only one? Do the top bars of the lower story, the bottom bars of the upper and the space between prevent brood-rearing in both stories? That is, if room is given, will the Queen pass these bars and occupy both stories the same as if no bars were there?

PETER MOYER, Sharpsville, Pa. Sept. 15th, 1874.

The Queen generally gets up into the upper story after a while, and eventually we often get the bees, brood and all above. We suppose it is because the warm air from the cluster rises until it is confined by the roof. This fact we consider the greatest objection to two story hives viz: the lower combs get cold and are apt to be deserted late in the season. The advantage of shallow frames (where they are covered closely) for rapid brood-rearing in spring, is probably owing to this same fact. We always expect in using a two story hive, that the Queen will use both stories.

MESSRS NOVICE & Co.:—I am in a *quandary*, will you please lend a helping hand? Here is my condition; a short time since I rec'd from Mr. H. Alley, a nice Queen, I got her safely into a very strong colony of *hybrids*, have fed freely since her introduction, on syrup; she is now laying. In this climate I have plenty of time to raise Queens from her, but there is not a single drone or any drone drood in any of my hives, or within five miles of me that I am aware of. Forage failed long since, and all drones were at once disposed of. How shall I proceed? Shall I try *first* to rear some drones to fertilize Queens this fall? or shall I rear one or two Queens, let them remain unfertilized and try to keep them over winter in a strong colony to be used as drone layers early next spring, *id est*, if they should lay at all. A dozen or more laying workers, (so some say), are found in one hive at same time, would two or three *drone laying* Queens live upon equally peaceable terms in the same hive? Mrs. Tupper I think reports *one case* at least, where a Queen, reared very late in the fall, when there were no drones, was impregnated the following spring. We are told, that after a Queen attains a certain age without being impregnated, she cannot be fertilized. This may be true in relation to Queens hatched in the proper season. Gen'l Adair tells us that workers hatched late in fall, remain in the adolescent state until next spring, that is, capable of performing all the work proper to young bees for a much longer time than if they had been hatched during the working season. Might not the same thing be true of young Queens, hatched *very late in fall?* Remaining in Gen'l Adair's adolescent or immature state through the winter and still being capable of impregnation on the return of spring. J. H. WILSON Sen'r, Lexington, Texas.

If Mrs. Tupper made the statement you mention, we presume she thought such was the case, but a great number of experiments seem to indicate it an impossibility. Does not Adair's remark like a great part of his writing seem to imply that he is more familiar with long words than with the interior of bee hives? Your only hope is to rear drones by liberal feeding which you should be able to do any month in the year there, for we can rear them here in Oct. When you get sealed drone brood, raise a new lot of Queens. If a Queen is not laying at one month old, you are safe in considering her of no value. Even if rare instances do show certain things possible, 'tis very unwise to calculate on a recurrence of such improbabilities.

While two young Queens are occasionally known to have existed for a time in the same hive, on the other hand 'tis almost a daily occurrence (at the proper season) in large Apiaries to have the first hatched kill all the rest. Even in our lamp nursery when they are without bees, they invariably kill each other, unless quickly caged.

If your bees have not already food for winter, even "*Teakettles*" may not save you now.

A. I. ROOT & Co. Sirs—I sent for a $3.00 Queen and rec'd her about three weeks ago. I introduced her as you introduced your imported Queen, but she got out although I secured the front with wire cloth, as I thought perfectly. I sent for another Queen and in the meantime placed the hive with hatching brood on the stand of an old stock. I rec'd the latter Queen on Monday last and placed her in a wire cage between the frames immediately; 48 hours later I released her and watched her with the other bees, when one bee pulled her by the wings I took her away and caged her again. This morning about 10 o'clock I opened the hive, smoked the bees and sprinkled with sweetened peppermint water. I released her and watched the bees on the combs for some minutes. They persist in building Queen cells but I have repeatedly cut them out; now, 1 o'clock, I have just been out to look at them. I left the sheet spread out in front to see if they killed the Queen. When watching the bees with the Queen this morning I perceived no hostility and left them. I looked at them repeatedly but now at 1 o'clock, on examining the bees carried out I find her dead.

MRS. MORGAN, Elyria, O. Sept. 4th, 1874.

We get altogether too many reports like the above. Although it seems our friend did all that could be done with the latter Queen, she certainly deserves some censure for letting the former get away. Until bees enough have hatched to gather around the Queen and make her contented to remain with them, say 24 hours or less, they should be carefully fastened in. No need of wire cloth for this, as they need no provision for ventilation, but the hive may be made tight by crowding cloth or paper into the entrance. Any decent hive can be made perfectly secure in this way with but little trouble, and if the young bees have never seen any other Queen they will always accept the one furnished. It seems to us this method is always a perfectly safe one. We have always had much trouble in introducing Queens late in the fall by the caging process; they will sometimes destroy them after they have been laying a week or more, therefore, keep all old bees away from a valuable Queen if she is rec'd late in the season.

On the 10th of July my two last natural swarms came out and lit on an apple tree within three feet of each other in a difficult position to hive. I finally got them hived all right and separated, but must have got the two Queens in one hive, for in four or five minutes after hiving, bees left one hive and went all together. I opened them the last day of Aug. and found them full of beautiful combs and full of honey, and knowing it would be to their interest I extracted two gallons of nice thick honey from them. This may not seem very large to you but it is so much better than I ever experienced in the swarming line I had to tell it. I have had black swarms come the middle of July and not half fill their hive.

Wm. PAYNE, Spencer, Medina Co. O.

This report is encouraging for the Italians, as the month of August here, is almost without exception, not a honey month.

Will a Queen reared from a pure bred purely fertilized Italian Queen mother produce *any* entirely black bees? I have reared Queens for ten years and never had a Queen that was reared from a pure mother of my selection, to produce any black bees whether mated with an Italian or common drone.

J. A. BUCHANAN, Wintersville, O.

Our experience is about the same. Our first Queen from Mr. Langstroth stocked our Apiary with Queens that produced two or three banded bees, but no black ones. In selecting one of these daughters to breed from the next season, we had colonies producing some bees all black, and the whole of them so cross that they they positively were enough to "make a preacher——"ahem, get out of patience. Since then we have had more or less of the cross black bees every season until we reared from our Argo Queen; her daughters produced no black bees so far as we know, and our present Imported Queen's have produced none. Hence the position we have taken for years, that so far as honey was concerned, if we could only be sure of having all Queens reared from one of *known purity* it matters little what drones they meet. The following is just to the point. Probably any one of us would be satisfied with the yields of comb honey mentioned:

I have taken off all my box honey now and have in the neighborhood of 1800 lbs. of box honey and 500 lbs. of extracted, from 22 colonies in spring. My best hive gave me about 200 lbs. comb honey, and two or three others gave me 160 lbs. and upwards; I had other stocks that gave me but very little box honey, they were the light colored, very handsome, very gentle, very pure Italians. We find that a little dash of black blood is a great improvement in box honey workers, but we don't want enough black blood to prevent striping all the workers. When we get a light colored pure Queen, mated with a drone from an impure stock, it shows in the increased activity of the stock, and when we raise Queens from that stock, we get just about the color we want. Our plan now is to breed from the most industrious stocks both Queens and drones and no others.

J. P. MOORE, Binghampton, N. Y.

Yesterday I transferred a lot of grubs from cells started in a hive containing old black comb, to some cells I found started on new comb, and gave some to Queenless nuclei. To-day I find them all right and much lengthened out and well supplied with royal jelly. Some of the larvæ were pretty good size, some just visible. J. A. BUCHANAN.

Did you ever! From this, it seems that all we have to do when we want a Queen, is to hunt up some old Queen-cells, put a small larvæ from our choice stock into each, and simply put them into Queenless colonies. Can't some one whittle out wooden Queen cells,—like wooden nutmegs—and thus save the bees the labor of building them?

Davis' Transition Process really amounts to more than even we had anticipated. Both cells (mentioned last month) to which we transferred larvæ, have produced fine Queens. If there are to be *no* failures 'twill be a novelty in Apiculture.

Friend B. sent us 50c for an unfertile Queen. As we had finished for the season, proposing to bend all our energies to the work of wintering those we had, we had no choice but to go to work and raise him one; this we did simply as follows: We put an empty comb in the centre of our imported stock and left it four days, then it was put in a Queenless colony that was waiting until we could get a laying Queen for them, and left *three* days at which time the Queen destined for them had commenced laying. Now as it was late in the season, they must have the Queen at once, and yet we did not want the Queen cells (of which there were 7 in an unsealed compact cluster) destroyed. To accomplish both, we moved the cluster, with the cells, to the north side of the hive and placed the laying Queen with two of her own combs with brood bees and all on the south side, filling between the two with empty combs. As we expected, the Queen cells were all properly sealed in three more days—10 days in all from the egg—and as we had no farther need of bees, the comb without bees was taken to the lamp nursery. Observe that we only kept a colony Queenless *three days* to get this lot of Queen cells. After six days more, 16 from the first eggs, two Queens

hatched at once and one killed the other. We examined them hastily, morning noon and night; the survivor—when we could catch her—was put in a cage with a few just hatched bees from another hive, and mailed as above. On receiving her he wrote as follows:

Since writing the above I have rec'd the Queen. I must say I have never before seen so neat and convenient a shipping box as the one you use; bees and Queen clean and lively. The Queen looks to be fertile; was she before mailed? She was introduced safely immediately.

The other five Queens were equally strong and finely colored,—none of the small black ones—and royal jelly was left in each cell. The temperature was kept the whole six days at from 90° to 100°, in fact "P. G." declared they would all be baked, but they were not. The workers of course did not hatch until four or five days more, so we had nothing but Queens in our nursery, unless for sooth the moth worms be counted that hatched and flourished with provoking vigor. We think 100° about the right temperature.

By permission of D. Lyons Browne, of Indianapolis, we give the following extract from a letter rec'd by him.

I have been engaged in a number of industrial pursuits for 40 years and I must say to you frankly, that bee-keeping is my favorite both for pleasure and profit. I am now running 1200 acres of good land. Broad acres of waving grain and grass, herds of cattle, sheep and horses, are a source of pleasure, but nothing in comparison to the apiary. To hear their busy hum and behold their economy and industry, smell their sweet perfume and share with them the proceeds of their and our industry is a pleasure to me beyond description.

I have realized over $10,000 in sales of bees and honey; more than in any other business in proportion to the capital invested. Last year I averaged $81.00 per colony. I do not expect to reach that amount this year as I did not give the attention required to produce such results.

SETH HOAGLAND, Mercer, Pa. July 11th, 1874.

If the number of colonies that produced this average was considerable, it certainly was a great result; too great for us novices to aspire to for years to come.

My cellar ranges from 34 to 40°—when above 40° the bees are restless. Until the past winter I have been in the habit of opening a window on north side and door on south (at night) and leaving open till the temperature reaches 32°—would close this once a week. I think bees need pure air as much as humans. This winter I think I will have a tube run from cellar to stove pipe in room above, this will create a draught and carry off the impure air. Where bees can be taken out and have a good fly—say in January and put them back, they will then go to breeding and keep it up. I know they will consume more food but then they will have bees to make it up when the flowers come. There was less brood in my hives when I took them out in March than there usually is in January. I did not know how to account for it, unless it was that their supply of honey and pollen was less in quantity. It makes them feel good to have say 40 or 50 lbs. of honey in the hive, and if you intend to have a big start by the 1st of June it will take about that much to take them from Oct. 1st to June 1st. It is very easy to start a home market for extracted honey by putting it up in an attractive form—say in jelly glasses with a piece of comb in; such as C. O. Perine *wholesales* at $4.00 per doz. The glasses hold about ¾ lb. of honey. I told my grocery man to retail at 25 cts.—they go off like "hot cakes"—3 lb. fruit jar $1.00, and pay 10 per cent commission. Quart jars cost $1.75 per doz., ½ pint jelly glass, tin top $1.00 per doz. The first I bought cost 75c, and were the neatest, but I could get no more of them, they were sold too low, but to buy at the factory and a gross or two at a time is the way to buy them. T. G. McGAW, Monmouth, Ill.

Please let me know through GLEANINGS, if the quilt in winter in the cellar should lay flat and tight on the frames? if not how should it be? Two of the quilts are all waxed over on the under side. Will they do for wintering? C. KENDIG, Naperville, Ill.

We use the quilts flat on the frames the year round. Waxing, or covering them with propolis seems to do no harm only that 'tis more trouble to remove them, when opening a hive. Laying a strip across the frame under the quilt to give the bees a passage has been recommended for winter, and friend McGaw of Monmouth, Ill., lays an empty frame underneath the quilt. We have made some similar experiments but discovered no especial advantage.

Do you think bees can be taken from Detroit about the 15th of Sept., with no honey and little comb in hive, put on cars, fed and watched on route, carried to some good locality about the range of Northern Georgia and *after that* gather honey and bee bread sufficient to keep them through the winter? Can you from personal knowledge recommend some locality?

M. H. CLEMENTS, Belleville, Mich.

P. S.—Can you give P. O. of some bee-keepers in that section?

We have had considerable correspondence on the subject and would particularly refer you to M. S. Klum, Sherman, Grayson Co., Texas, and R. Wilkin, Oscaloosa, Iowa. Candidly, we fear it will not pay, still some experiments might be advisable. Shipping bees is as yet too risky a business to expect them to be handled as they should be.

Do you put anything into the syrup to keep it from candying? Did you know any trouble with that that you say you are now feeding to swarms you are building up? I mean those that you have wintered, and partly summered. Will honey sour if extracted before being sealed? If so how do those manage who extract once in three days? Can it be evaporated to make it thick without injuring the flavor?

JOSEPH SINTON, Ithaca, N. Y. Aug. 5th.

Sugar and water only. The combs containing syrup fed last fall, even when used in Aug. of the present season were appropiated for brood-rearing without waste. It is seldom that honey is gathered thin enough to sour, even if you do extract every third day. Should you happen to get any that is too thin it can be ripened into perfectly good honey by keeping it several days in an oven or other warm place. The flavor is unchanged unless it is heated to the boiling point. As this artificial ripening is a slow job, we think it most profitable to let the bees do it. A very strong colony will get the honey ripened and much of it ready to seal in three days. The only sure way of telling when you should take the honey, is to go over a few hives and see if the honey obtained is ripe enough to suit you. Thick honey is heaviest and will eventually, if it does not now, command the highest price in the market.

GLEANINGS came to hand on the 3rd and is full of valuables. I notice you advise feeding sugar immediately for winter use. I intend to winter on sugar but what shall I do? Nearly our best honey season is coming yet. Golden rod and Iron weed are our best honey plants after June. If the weather is favorable will I have to lose the crop or can I wait two weeks longer to feed? If it should not be sealed up until too cold weather could I not take them in a warm room to seal it? A. T. WEIDNER, Bigler, Pa.

We certainly would not want to lose any yield of honey that might come any time when bees could gather it. We know of no plan except the one given on page 108 last month viz: make them store the late honey in empty combs placed on both sides of the central combs con-

taining the brood and sealed stores, and empty their temporary combs as fast as filled, or extract all unsealed stores. We think we should prefer sealed honey to unsealed syrup. One or two wrote last winter saying their bees were doing finely on unsealed stores notwithstanding all that had been said against it. Late in the spring one of the most sanguine of them wrote as follows:

DEAR NOVICE:—My bees have all gone to the d—d—d—dogs this winter; did not have one left when the weather became fine enough for bees to fly. So I have commenced afresh with 17 swarms that I bought last week, all natives. Now Sir how would it work to winter bees in this way, say have both stories on with the bottom story empty, no frames nor comb in it, have combs frames and bees in the top story with a straw honey board on the top, and sun cap over that, and place them on the south side of an 8 foot high tight board fence. I think of trying this plan next winter if you are in favor of it. My experimental swarm I spoke of last winter, in the room, did not increase the least; the young bees would not come to perfection from some cause or other, and I could not keep my store room in which I kept my bees, cool enough to keep them quiet, and through fooling about with them lost them all.

M. RICHARDSON, Port Colborne, Canada.

The plan you mention friend M., has been tried, and gives no especial advantage. A strong colony often winters well in this way, as they do in hives without bottom board at all, but much more food is consumed.

It should be borne in mind that a very strong colony can be safely fed, later than a weak one; if their hive is *full of bees* they can evaporate and seal up, but beware of giving a feeble colony in a large hive a large amount of stores, after the weather has become too cool for them to ripen it. All such experiments, so far as we can learn, as taking bees into a warm room in the winter time have proved failures. What will be accomplished by utilizing the heat of the sun's rays in winter time remains to be seen.

Some writers claim to have Queens hatch in 9 days, I never had one hatch in less than 10 days—unless it was the first lot I ever raised, and I have often thought the mistake was mine. Never have seen one of the Queens that only live two or three months. How long will a fertile worker live? G. M. Doolittle wrote a number of years ago, that a pure Queen mating a black drone would never show any black bees among her worker progeny. I have had a good many Queens that mated impurely whose worker progeny never showed any black bees.

T. G. McGAW, Monmouth, Ill.

DEAR NOVICE & Co.—Just now with us, it is distressingly *hot* and *dry*, not a particle of honey in the fields, still the bees are flying at a rapid rate. Do you ask what they are after? I answer *water*, *water*. Writers tell us, as well as our own experience, that bees require water to prepare food for the grubs. With me, breeding for the present is suspended, no grubs to be provided for, still the bees drink an immense deal of water, they require it for their *own bodies*, they also furnish the *Queen* with a liberal amount. My close daily observation this summer has fully satisfied my mind, that many, very many Queens sent by mail and express, during intensely hot weather, are lost while "in transitu" solely for the want of *water*. I am not a Queen breeder, but an occasional Queen buyer, and hence, feel an equal interest with the breeder in safe transportation.

J. H. WILSON, SEN. Lexington, Texas.

If you allow your bees to be entirely without brood in Aug., we fear we shall have to consider you a bad bee-keeper. Why don't you get ready for the yield that is coming? Water is a very good thing no doubt, but aint it rather "thin" for a regular diet? Joking aside friend W., we presume you know your own business best, but we have been so well pleased with the plan of keeping things lively this season, with sugar, that, we don't like to think of their being idle during warm weather. Our friend Dean who has had such success in sending Queens great distances, gives them nothing but honey in a sponge. A sponge filled with water does not answer for long distances; it evaporates and the sponge is dry, while the honey remains unchanged.

I sent to Mr. Alley last year and got an Italian Queen, she lived till May this year, then was missing. Bees raised five Queen cells, the Queen they saved was lost in bridal trip. Then I was plagued with a fertile worker and they actually made Queen cells on drone eggs. I gave them a black Queen and after she had laid a quantity of eggs, she disappeared and they raised another Queen which now reigns I suppose. Now I have been plagued with that hive beyond account, and if I had not kept it up with brood and bees it would have gone up ere this time.

JOHN DAWSON, Pontiac, Mich.

We dare say you have had far more trouble with the hive than if you had made an examination of it once in every week, or two weeks even. Fertile workers never make their appearance in a well conducted apiary, and they may almost be considered as only an evidence of inexcusable carelessness. If a Queenless hive has fresh eggs given every week or ten days, they will never appear; they are only seen when the colony has no Queen, and no means of raising one. With proper hives, we can remove a frame from the center of the cluster and see if the Queen is all right, in five minutes at least, and he who cannot take this trouble whenever the deportment of the bees outside seems to indicate a want of thrift, deserves to have trouble. We are well aware friend D., that you are not the only one who allows a hive to go, "weeks" without a Queen, but it is assuredly at a loss, for all that.

You say you *suppose* they have a Queen now, we advise you to suppose nothing about it but look and see, *at once*.

Please tell me whether a stock will be any more likely to accept a strange Queen after having been Queenless for a time?

ILA MICHENER, Low Banks, Ontario, Canada.

We think as a general thing they will. Should they however have been Queenless so long as to induce fertile workers, the case would be different. A steady yield of honey has more to do with a favorable reception than any thing else we know of. Regular, liberal feeding until comb building has commenced, we think comes next to it.

Can Queen bees be sent from Ohio to this place through the mails? If so what would each Italian Queen cost me here, and how soon in the spring could you furnish me with a small number? Bees begin swarming here the latter part of Feb.

D. F. McFARLAND, San Diego, Cal. Sept 3d, 1874.

We think our friend Dean, of River Styx, will send them without trouble, but it is difficult to furnish dollar Queens here before July.

Some one asked you the question—will it do to winter in the *long* hives? I believe you answerd, yes. Shall we give the bees the whole length of hive, giving them plenty of honey, pollen, and a few empty combs in middle? or shall we restrict them to a limited portion of hive, giving them the balance of room in spring as they may need it? J. H. WILSON, SEN.

We have had no experience in wintering in the long hives, and are therefore unable to decide. We should favor a division board, having uniformly had much better success at all times of the year, when the hive was of such size that the bees filled it completely.

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These, though not specially designed for Bee-keepers, have a tendency to inculcate principles that ensure success in bee-keeping as well as almost all other rural pursuits.

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Sample Frame, by mail, ... 10
Quilt 40
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The same in a bundle including nails, hinges etc, 3.25
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One pound (square) Jars, per gross	$6.50
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Corks, "	.75
Tin Foil Caps, "	1.20
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